NOAA RESEARCH REVIEW TEAM DATA REQUEST

NOAA Fisheries Northwest Fisheries Science Center Response
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1. Recent Evaluations of the Center

From September 2002 to December 2003, the Northwest Fisheries Science Center (NWFSC or Center) as part of its internal science quality assurance program conducted several external reviews of its principal research programs. Collectively, four recent program reviews, each conducted by a panel of external expert scientists and led by an external senior scientist advisor to the Center, provided a very detailed evaluation of the NWFSC's programmatic and infrastructure capabilities and needs. The Center chose this approach over an all-inclusive external review because we concluded that individual reviews of the major program areas would provide a more thorough and detailed evaluation of the entire Center's research programs, support elements, and infrastructure.

The program areas evaluated were 1) hatchery science and artificial propagation (September 2002); 2) estuarine and ocean ecology (March 2003); 3) recovery planning, watershed and riverine ecology (June 2003); and 4) groundfish (December 2003). The NWFSC arranged for Dr. William Cooper, Professor Emeritus from Michigan State University to coordinate all four reviews as well as lead each of the four separate review panels. Each panel was comprised of 5-6 external scientists selected by Dr. Cooper and considered experts in their respective areas of research. Common questions posed to the panel included: 1) is it the right research? 2) is the research of good quality? 3) are the resources supporting the research adequate? and 4) are the researchers qualified? The program reviews were formatted as follows: 1) panel members were provided background materials to review some time in advance of the review; 2) during a span of 1 ½ days, key Center research personnel presented summaries of their research areas including research plans, opportunities, and challenges through oral or poster presentations; 3) blocks of additional time were set aside for the panel members to meet and interview as many staff as possible on a one-to-one basis; 4) two separate evening receptions were held for the panel member to informally meet constituents of the Center's research and Center staff; 5) after each review, the panels summarized their findings and recommendations in exit briefings to senior Center staff; 6) panel members provided a final, detailed written report to the NWFSC; and 7) the NWFSC in turn will provide action plans to NOAA Fisheries Headquarters to address the issues/recommendations raised by the panels. Reports from the four external reviews are included with this response for the NOAA research team's review.

In addition, in 2002, the DOC Office of Inspector General audited the NWFSC's Salmon Research Plan. In the course of the audit, the OIG reviewed the Center's overall salmon science program. The final report was highly complimentary regarding the science conducted by the Center and the innovative approaches (including the master Research Plan) adopted by the Center to address the enormous challenges of developing sound scientific underpinnings for recovery planning of Northwest salmon. The report also highlighted the apparent lack of documented external peer (stakeholder) review of the master plan and the absence of several component research plans under the master plan. The Audit report and the NWFSC's action plan addressing the Audit's recommendations are also provided for this NOAA research review.

The salmon recovery science in the Pacific Northwest is conducted by a multi-agency group consisting of federal, state, and Tribal agencies and led by the NWFSC. To provide guidance, review the program, and reduce duplicative efforts, the NWFSC chose the innovative approach of convening

a Recovery Science Review Panel (RSRP). The RSRP consists of six highly qualified and independent scientists who perform the following functions: 1) review core principles and elements of the recovery planning process being developed by NOAA Fisheries, 2) ensure that well accepted and consistent ecological and evolutionary principles form the basis for all recovery efforts, 3) review processes and products of all Technical Recovery Teams for scientific credibility and to ensure consistent application of core principles across ESUs and recovery domains, and 4) oversee peer review for all recovery plans and appropriate substantial intermediate products. The RSRP meets once a quarter, usually at the Northwest Fisheries Science Center, and submits a written report. All Panel reports can be found on the NWFSC's website at: http://www.nwfsc.noaa.gov/trt/rsrp.htm.

Under the direction of Congress, NOAA Fisheries and the Northwest Power and Conservation Council established the Independent Scientific Advisory Board (ISAB) to foster a scientific approach and sound recovery strategies consistent with the Northwest Power Act and the Endangered Species Act for the Northwest Region and specifically for the Columbia River Basin. Among the tasks assigned to the ISAB by NOAA Fisheries are developing guidelines for peer review of research and proposals, advising on priorities for conservation and recovery measures including research, monitoring and evaluation, and providing technical review of proposals and plans. One of the more recent reviews conducted by the ISAB was that of a draft research, monitoring, and evaluation plan developed jointly by staff from NOAA Fisheries (NWFSC and the Northwest Regional Office), the Bonneville Power Administration, the Army Corps of Engineers, and the Bureau of Reclamation. The plan is designed to help implement the NOAA Fisheries 2000 Federal Columbia River Power System Biological Opinion and the Federal Caucus Basinwide Salmon Recovery Strategy. The review as well as other actions taken by the ISAB can be found at: http://www.nwcouncil.org/library/isab/isab2004-1.htm

All stock assessments are reviewed by a stock assessment review (STAR) panel. The STAR panels are coordinated by the Scientific and Statistical Committee of the Pacific Fishery Management Council. These panels include at least one independent expert. These reviews ensure all stock assessments are peer reviewed and that the best scientific information available is presented to managers.

A research plan is being developed to support conservation planning for Southern Resident Killer Whales, and we are working cooperatively on conservation planning with state and Canadian authorities that share responsibilities for this population of marine mammals. The NWFSC has hosted three technical workshops which were co-sponsored by Canada's Department of Fisheries and Oceans and Washington's Department of Fish and Wildlife and attended by Federal, state, and Canadian scientists, appropriate NGOs and invited external scientists. The first two workshops were held in 2003 to identify research priorities for FY03 funding on prey and vessel interactions. The third workshop, held in 2004, built off the first two workshops and included many of the same participants. The product was identification of the key scientific questions that need to be answered and an assessment of the appropriate technique(s) to be used in addressing each question. This will be the basis for preparing the long term research plan for SRKWs.

In 2003, the Center created an ad hoc evaluation committee that evaluated the Center's overall scientific approach and program alignment, identified inefficiencies, and made recommendations on how to improve planning, programs, and operations to best address current and future demands and opportunities. The report from the Center's internal Evaluation Committee can be found on the NWFSC's website at: http://inside.nwfsc.noaa.gov/centerreorg/index.cfm.

The NWFSC has been proactive in providing infrastructure support to the overall science mission of the Center. In 2003, the Center received the Best of the Best Facility award from NOAA's Environmental Compliance and Safety Office and the first annual EPA Region 10 "Champions for Environmental Leadership and Greening the Government" Innovation Award.

2. Brief History and Mission

The Northwest Fisheries Science Center's headquarters in Seattle, Washington was created in 1931 and was the first government laboratory dedicated to the study of living marine resources on the West Coast. For the past seven decades, the NWFSC and its predecessor agencies have been at the forefront of marine fisheries research in the Pacific Northwest. The Center's mission is to provide the sound science that is needed to conserve and manage living marine resources and their habitats, with an emphasis on the Pacific Northwest. The Center's over 300 Federal and 200 non-Federal employees conduct both field and laboratory research in coastal, ocean, and estuarine environments, as well as inland freshwater habitat that anadromous species, like salmon, use.

Facilities of the Northwest Fisheries Science Center

The headquarters and principal offices of the Northwest Fisheries Science Center are situated along Seattle's Portage Bay, near the University of Washington campus. The Montlake facility houses more than 35 research laboratories, plus the Science Director's office and the directorates for each of the five science divisions. In addition, the Montlake facility directs the research efforts of its five field research stations located throughout Washington and Oregon. Unique features of the Montlake facility include an innovative freshwater-recirculation system and aquaculture facility for life-cycle research; sample handling and extraction laboratories for biotoxin and contaminants research; extensive genetics laboratories certified for handling radioactive materials; a small research vessel (the RV Harold W. Streeter) for sampling in local waters; an extensive marine science research library, used as a resource by multiple NOAA entities; and proximity to other NOAA units and the University of Washington's main campus.

Research Stations

Each of the Center's permanent research stations has unique assets necessary for fisheries research. The five research stations provide freshwater and saltwater laboratories, specialized facilities, and local outreach programs. Research stations receive broad-based support from the scientific community and offer collaborative research opportunities for government, tribal, and university scientists. Research stations are not independent units but report to their respective Division Directors at the central Montlake facility.

- Manchester Research Station

Projects at this facility focus on captive broodstock research and technology; the culture and health of salmonid and marine fish species; fish genetics; and fish marking and tagging (PIT-tag) technology. A world leader in state-of-the-art salmonid culture technology, Manchester was the first research facility in the U.S. to grow salmon in a marine aquaculture setting. Today, it is one of only a few research facilities in the country where species such as lingcod, rockfish, sablefish, and Pacific halibut are successfully reared. Unique features of the Manchester facility include a large floating marine net-pen complex for understanding the environmental impacts of commercial rearing activities; unique semi-natural and other specialized rearing systems for salmonid and marine fish studies; a state-approved salmon quarantine facility; and systems for research and testing of passive integrated transponder (PIT-tag) technology.

- Mukilteo Research Station

Research at this station focuses on understanding the life cycle of marine species and the impacts of toxic substances on anadromous and marine fish and invertebrates. In this salt-water facility, scientists rear marine flatfish for pollution studies and maintain an algae and zooplankton culture laboratory for the production of natural prey. Unique features of the Mukilteo facility include a high-quality seawater system for fish rearing and marine species studies; an algae and zooplankton culture laboratory; and specialized laboratories and equipment for studies on the fate and effects of toxic substances.

- Newport Research Station

This ocean port station is a vital component of Oregon State University's Hatfield Marine Science Center, which serves as a collaborative research hub for government and university scientists. Areas of research by Northwest Fisheries Science Center scientists include assessments of commercial groundfish stocks off the West Coast; studies of interactions among environmental factors and diseases of salmon; investigations of food-web changes in coastal waters related to climate variability and change; and studies of the survival of salmon as they enter the ocean. Unique features of the Newport Research Station include specialized seawater systems for immunological research; a recently constructed office and warehouse building for various program elements, and access to OSU's assets including an ocean-going ship and small craft for sampling in local waters, a ship-support facility for ocean-going research vessels; and a visitor center with public aquaria and displays of the Center's research.

- Pasco Research Station

Scientists at this site address various aspects of anadromous fish migration, particularly the biological monitoring and evaluation of technologies to improve salmonid survival during passage through the Columbia River hydropower system. The station is strategically located on the main stem of the Columbia River and serves Center research throughout the entire Columbia River Basin. It is the only NOAA facility dedicated to the study of safe salmon passage through major hydroelectric dams.

- Point Adams Research Station

This research site conducts studies to identify and better understand factors that affect the survival of Pacific salmonids in the Columbia River system, ranging from upriver dams to the estuary and adjacent nearshore ocean. Ecosystem studies include the ecology and survival of juvenile salmonids in the critical transition from freshwater to ocean environment; predator-prey relationships in the nearshore ocean; detailed aspects of fish passage; and the environmental impacts of navigational channel maintenance on river ecosystems. Unique features of the facility include research vessels and small craft for sampling in local waters and a strategic location along the Columbia River estuary for estuarine and nearshore-ocean studies.

2. Major customers of the NWFSC

The NWFSC has numerous stakeholders in the public, private, and tribal sectors. In addition, the NWFSC has established cooperative relationships and partnerships that have permitted the Center to leverage its resources and research capabilities. Examples of customers and partnerships include:

NOAA Fisheries NW Regional Office:

Primary customer for scientific and technical advice on: 1) the ecology of salmon, groundfish, and marine mammals; 2) quantifying ecological risks faced by salmon and groundfish populations; 3) biological recovery and rebuilding goals; 4) strategies for recovery of ESA-listed populations and overfished groundfish species; 5) assistance in refining stock structure and setting harvest goals through the Pacific Fisheries Management Council and Pacific Salmon Commission, 6) major ESA and SFA consultations and EFH/EISs under NEPA, and 7) monitoring of bycatch.

NOAA Law Enforcement:

NWFSC conducts forensic sequence analysis of specimens collected by NOAA Fisheries special agents and enforcement officers in support of laws that protect and conserve our nation's living marine resources and their natural habitat.

Other NOAA Line Offices:

NWFSC scientists collaborate with other NOAA Oceans (NOS) and NOAA Research (OAR) scientists in joint research projects involving ocean observing systems, harmful algal blooms, marine mammals, aquaculture and marine fish enhancement.

States of Washington, Oregon and Idaho:

Departments of Fish and Game or Wildlife: Partners in assessing the status of groundfish and salmon stocks, development and implementation of monitoring and evaluation programs, and joint research projects. The NWFSC provides scientific advice such as the Viable Salmonid Population concept and assists in establishing criteria.

Governors Pacific Salmon Offices (WA – Salmon Recovery Fund Board, OR– Watershed Enhancement Board, ID – Office of Species Conservation): To various degrees, we provide technical advice and services for developing and reviewing Pacific salmon conservation, restoration and monitoring projects—both state programs and those supported by the Pacific Salmon Recovery Fund. Northwest Power and Conservation Council: Provide technical information and advice on habitat assessment approaches that will identify restoration and conservation strategies for restoring ecological functions that support Pacific salmon during freshwater residency.

Native American Tribes (e.g., Columbia River Intertribal Fish Commission, NW Indian Fish Commission, Skagit System Cooperative):

We provide information on status of groundfish and salmon stocks, hatchery programs, habitat assessments, provide technical assistance through partnering in watershed scale ecological research projects of mutual interest, and undertake collaborative research particularly on stock structure.

Federal Agencies:

U.S. Army Corp of Engineers, Bonneville Power Administration, and Bureau of Reclamation: We provide technical assistance and scientific data and information through cooperative research projects on issues such as fish passage and survival estimates for juvenile and adult salmon at Columbia River hydropower projects, and juvenile salmon use of the Columbia River estuary and plume as affected by hydropower operations.

U.S. Geological Service, U.S. Environmental Protection Agency, U.S. Department of Agriculture, and U.S. Fish and Wildlife Service: We partner with these agencies to leverage scientific resources to conduct investigations of fish health and ecological issues of common interest, such as the reproductive fitness of hatchery fish and estuarine use and residency of juvenile salmon to identify

the relative role of the estuary in survival of juvenile salmon. Leveraging resources are essential to conduct studies at spatial scales needed---no single agency has all the necessary resources.

Cooperative Agreements:

The NWFSC has established highly productive cooperative agreement relationships with the University of Washington, and Oregon State University. Through NWFSC's support, the collaborative research partners have seen increases in their external research grant funds, diversification of undergraduate and graduate student opportunities, and expanded opportunities to work with investigators and undertake research in environmental, social, and economic issues. In turn, by leveraging its resources, the NWFSC has been able to expand its research portfolio into new research areas or expand existing critical areas. The NWFSC has a Memorandum of Understanding to promote collaboration between the Center and Washington State University as well and recently re-signed a Memorandum of Understanding with the Northwest Indian College to establish the Northwest Indian Center for Marine and Environmental Research and Education. Under the provisions of the MOU, the Center will work with the NWIC to provide research, education, and training opportunities for Native American students in such diverse areas as conservation genetics, aquaculture, and salmon recovery and enhance NOAA's potential for recruiting Native Americans into the workforce.

Intergovernmental and International Agencies:

Center scientists work with scientists from other intergovernmental and international agencies such as the PICES (the North Pacific Marine Sciences Organization), the US Japan Natural Resources Panel on Aquaculture, the Pacific Salmon Commission, ICES (International Council for the Exploration of the Seas), Pacific States Marine Fisheries Commission, and Pacific Fisheries Management Council. For example, in partnership with the Pacific States Marine Fisheries Commission, Pacific Fishery Management Council, and the Pacific Marine Conservation Council, the NWFSC helped develop a cooperative research web site (www.fishresearchwest.org) that serves as a clearinghouse for information on cooperative fisheries research. Center scientists also serve on many committees.

Education Partnerships:

In addition to our major collaborative research efforts, NWFSC has a cooperative agreement with the Washington State Board of Community and Technical Colleges and Oregon Coast Community College, as well as contracts with Oregon Health & Sciences University, Technology Access Foundation and several programs with Seattle Public Schools to provide internships for students from high school through graduate level.

Academic clients:

We collect data and samples specifically for many academic researchers. These collections are made simultaneous with survey operations and are therefore very cost-effective. In 2003 alone, we collected information in support of 13 research projects conducted by academic researchers. We also participate directly in joint research projects of mutual interest. Academic partners bring specific scientific expertise not available in the Science Center to high priority research projects.

The General Public:

Center staff participates in local outreach events and career fairs as well as bringing science into the classroom programs. Center staff also has developed formal programs for summer interns, including job skills and development courses. Center staff serves on school boards and volunteer as mentors.

4. Research Summary

The Center has lead responsibility in the region to study and provide state-of-the-art scientific information on the following primary living marine resources.

• *Pacific Salmon*–Fifty-two populations or evolutionarily significant units of salmon and steelhead exist on the west coast, twenty-six of which are listed as endangered or threatened under the Endangered Species Act.
• *West Coast Groundfish*–The west coast groundfish fishery includes some 80 commercially fished stocks and supports millions of dollars in economic activity and many livelihoods. The Center coordinates NMFS' Groundfish Program on the west coast.
• *Killer Whales*–The Southern Resident killer whale population was recently listed as depleted under the MMPA. The Center has developed a cooperative research plan to address possible causes for the killer whale decline and to gain a better understanding of the physiology, ecology, and behavior of these whales.

As part of the Center's studies of these living marine resources, Center scientists also conduct research that helps predict how marine resources respond to environmental variability and climate change, the nature and location of habitat resources required by commercially valuable fish species, and habitat interactions between fish and marine mammals.

The Center's research brings together a number of disciplines, including fisheries science, marine biology and ecology, genetics, biochemistry, molecular biology, oceanography, socioeconomics, anthropology and physiology. Organizationally, the Center consists of the Conservation Biology Division, the Environmental Conservation Division, the Fish Ecology Division, the Fishery Resource Analysis and Monitoring Division, and the Resource Enhancement and Utilization Technologies Division. In addition, the Center has Socioeconomics, Marine Mammal, and Science Synthesis and Coordination programs. Across these five divisions and programs, NWFSC scientists and staff conduct research in five primary areas:

• ***Status of stocks***–Center scientists conduct and coordinate stock assessments for West Coast groundfish and salmon stocks in the Pacific Northwest by taking a variety of measurements, analyzing the data, and using mathematical models to draw conclusions from the results. These assessments are one tool used by managers to set biologically sustainable harvest levels for healthy stocks and to identify overfished and threatened or endangered stocks.
NOAA Program Area: Ecosystem Research Matrix and Protected Resources Management Programs
Geographical Scope: Regional
Time Frames of Research: 60% short; 30% medium, 10% long

• ***Human Caused Stress/Risks***–Center scientists conduct research to better understand how salmon, marine fish and marine mammals react to these stresses and to quantify, assess, and minimize these risks. The Center's research provides the scientific underpinning for management decisions.

NOAA Program Area: Ecosystem Research Matrix and Protected Resources Management Programs
Geographical Scope: Regional
Time Frames of Research: 40% short; 30% medium, 30% long

• ***Ecosystem and Climate Characteristics***–Center scientists conduct research on physical and biological processes that influence aquatic, marine, and estuarine ecosystems in the Pacific Northwest, as well as the effects of invasive species, toxic phytoplankton, climate change, and natural environmental fluctuations.

NOAA Program Area: Ecosystem Research Matrix and Protected Resources Management Programs
Geographical Scope: Regional
Time Frames of Research: 25% short; 50% medium, 25% long

• ***Recover and Rebuild Species***–Center scientists study genetic variation and conduct research on the population structure of salmon, marine fish, and killer whales. The Center also develops innovative recovery tools like captive broodstock programs to propagate salmon species, new techniques for rearing hatchery fish, and culture techniques to rear marine fish. In addition, Center scientists are directly involved in Pacific salmon recovery planning efforts on the west coast through Technical Recovery Teams.

NOAA Program Area: Ecosystem Research Matrix and Protected Resources Management Programs
Geographical Scope: Regional
Time Frames of Research: 60% short; 20% medium, 20% long

• ***Innovation and Technology***–Center scientists are taking a lead role in developing and applying technologies, techniques, and quantitative risk assessment tools to support conservation and recovery of the Pacific Northwest's living marine resources. Over the years, the Center's innovative and original research has helped establish new aquaculture endeavors, seafood processing techniques, dam passage equipment and techniques, methods to detect and evaluate harmful algal blooms, and technology to integrate and track important fisheries dependent data, as well as to identify and monitor marine and anadromous fish populations.

NOAA Program Area: Ecosystem Research Matrix and Protected Resources Management Programs
Geographical Scope: Regional
Time Frames of Research: 50% short; 40% medium, 10% long

5. List of 3-5 major accomplishments in the last 5 years:

Status of Key Living Marine Resources. West Coast living marine resources support millions of livelihoods and dollars in employment and other economic activity. Northwest Fisheries Science Center scientists have recently completed a major update of the status of twenty-seven Pacific salmon and steelhead populations, assessed the status of the Southern Resident killer whale population, and conducted or improved assessments (incorporating observer information, developing new modeling approaches, combining previously separate shelf and slope surveys, adopting a stratified-random sampling scheme for surveys, conducting joint U.S.-Canadian acoustic surveys of Pacific hake, and surveying fish distribution and abundance in untrawlable habitat) of a number of key West Coast groundfish stocks. This critical information has been used to identify and help rebuild overfished and threatened populations and to set biologically sustainable harvest levels for healthy stocks.

Cooperative Program on Harmful Algal Blooms. Harmful algal blooms have been responsible for beach closures and the loss of millions of dollars in coastal communities. Northwest Fisheries Science Center scientists, in partnership with academic, NOAA, and Canadian scientists, spearheaded a multi-million dollar research project to study the ecology and oceanography of Pseudo-nitzschia, the marine algae that produce the neurotoxin domoic acid. With these studies, scientists will develop a model to forecast harmful algal blooms, greatly reducing the impact they have on coastal communities and the region.

New Marine Fish Culture Techniques. Nine groundfish species are listed as overfished on the West Coast with rebuilding plans that are estimated to take decades. Northwest Fisheries Science Center scientists developed new culture techniques and with them successfully reared, for the first time, several key groundfish species. The culture of these species has national implications and will help managers evaluate different strategies that can assist in the rebuilding of critical fish stocks.

Advanced Technology. Northwest Fisheries Science Center scientists improved implantable passive integrated transponder (PIT) tag technology, are developing miniaturized acoustic tags, applied advanced acoustic techniques to assess groundfish, implemented an on-board data collection system that relies on a wireless network, and developed new molecular biological tools to advance fisheries research. These new applications will improve stock assessment techniques, increase understanding of fish migration and survival in marine ecosystems, and increased the ability to identify and characterize the origin of individual fish in mixed-stock fisheries and for improved ecological research.

Survival Forecasts. Predicting how many salmon will return in any given year is extremely difficult due to a number of factors, including changing ocean conditions. Center scientists refined the definition of "good" and "bad" ocean conditions for salmon and developed quantitative models to predict returns. This information is essential for improved harvest management and for evaluating recovery and rebuilding options. Improved forecasting is very valuable to people whose livelihoods and economic prosperity are linked to a fishery.

Pacific Coast Observation System. Critical information on the ocean environment will be collected and applied through a new Pacific Coast Observation System (PACOS). As part of this effort, NOAA in partnership with other agencies and organizations is improving coordination and integration of hundreds of existing observation systems along the West Coast. The proposed observing system will support management of all federally managed species in the nation's waters and their ecosystem.

6. Legal Mandates

Magnuson-Stevens Fishery Conservation and Management Act 1976, (MSFCMA) (Amended in 1996 as the Sustainable Fisheries Act.) (SFA); Endangered Species Act of 1973 (ESA); Anadromous Fish Conservation Act; Marine Mammal Protection Act of 1972 (MMPA); Columbia River Fisheries Development Act (formerly Mitchell Act); Pacific Salmon Treaty Act; National Environmental Policy Act, 1970 (NEPA); Federal Power Act (FPA); Pacific Northwest Electric Power Planning and Conservation Act (aka Northwest Power Act); Fish and Wildlife Act; Fish and Wildlife Coordination Act; Consultation and Coordination with Indian Tribal Governments, 2000 (Executive Order 13175); Executive Memorandum on Government to Government Relations with Native American Tribal Governments (April 29, 1994); Coastal Wetlands Planning, Protection, and Restoration Act of 1990 (CWPPRA); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund); Clean Water Act, 1977 (CWA); Oil Pollution Act of 1990 (OPA); Outer Continental Shelf Lands Act; Safe Drinking Water Act; Small Business Regulatory Enforcement Fairness Act, 1996. (SBREFA) (formerly Regulatory Flexibility Act); Regulatory Planning and Review, 1993 (Executive Order 12866); Administrative Procedures Act; Congressional Review of Agency Rulemaking Act; Unfunded Mandates Reform Act, 1995; Regulatory Right to Know Act;

Government Performance and Results Act, 1993 (GPRA); Data Quality Act (NOAA Sec. 515 Guidelines 10/1/2002); Marine Protection Research and Sanctuaries Act; Convention on International Trade in Endangered Species of Fauna and Flora; Marine Mammal Research Grants; 15 USC 1540 (Secretary of Commerce is authorized to enter into cooperative agreements with any nonprofit organization to aid and promote scientific and educational activities to foster public understanding of NOAA and its programs.)